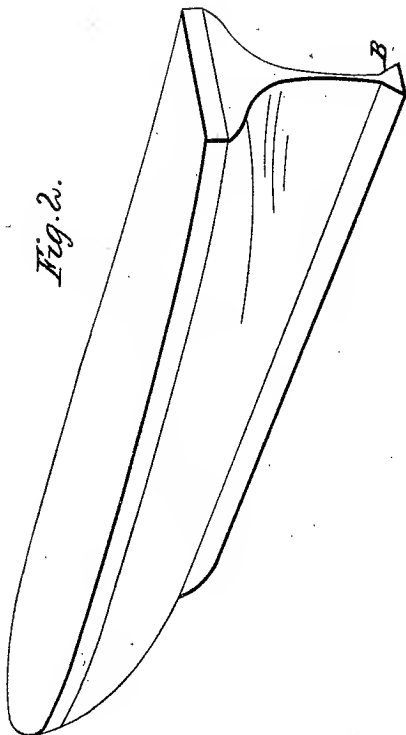


S. E. HOWELL.
Center Board and Keel.

No. 365.

Patented Aug. 31, 1837.



UNITED STATES PATENT OFFICE.

SAMUEL E. HOWELL, OF NEAR VINCENTOWN, NEW JERSEY.

IMPROVEMENT IN SHIP-BUILDING.

Specification forming part of Letters Patent No. 365, dated August 31, 1887.

To all whom it may concern:

Be it known that I, SAMUEL E. HOWELL, of near Vincentown, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Ship-Building, which are described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The first improvement that I have made, and which I desire to secure by Letters Patent, consists in forming the bow in a regular curve similar to a parabola and without any cut-water in the manner represented at A, Figure 1, by which construction the vessel answers more readily to the action of the helm, and in beating to windward is not impeded in her progress by the wind or sea striking her in the angle formed by the cut-water and bow; but it passes off at the side, and the ship feels very little of the shock.

A vessel constructed with a bow as above described will bear more beam than one with a sharp bow and cut-water, and of course can carry more sail. She will bear to be as wide as one-third of her length. Likewise she will bear to have her greatest beam well forward, as the drawings represent, which will give her a longer sailing-floor. She will turn to windward in much less time or distance than a sharp ship. She will ride at anchor much

easier, as she will not grip or sheer. She will bear to have her masts without rake. Of course her sails will set fairer to the wind. When she carries a press of sail in going before the wind, she will raise herself instead of burying, as a sharp ship does.

The second improvement that I have made, and which I also desire to secure by Letters Patent, consists in making the bottom of the keel wider than the part united to the ship in the manner represented in the drawings at B, Fig. 2, which presents a section of a cone, by which construction, when the ship heels over with the wind, the lee side will present a perpendicular side to the surface of the water, which will hold her better to windward, a few inches more additional depth of keel making up the deficiency of the cut-water to the forward keel.

The invention claimed by me, the said SAMUEL E. HOWELL, and which I desire to secure by Letters Patent, consists in—

Forming the bows of vessels of a large class in a regular curve without a cut-water and in forming the keel a section of a cone, as before described.

SAM. E. HOWELL.

Witnesses:

WM. P. ELLIOT,
WM. BISHOP.